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AMSAT NEWS SERVICE
ANS-063

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

In this edition:

* VP9, BERMUDA on Satellites
* GOLF-TEE and GOLF-1 Selected for NASA’s CubeSat Launch Initiative
* Rare Grid Rover Activation Planned on Pacific Coast
* VUCC Awards-Endorsements for February 2018
* Satellite 101 Wiki Released by IIT Bombay Student Satellite Project
* Rules for AMSAT Awards updated
* BIRDS-2 CubeSat Constellation Includes 145.825 MHz Digipeater
* Satellite Shorts From All Over

SB SAT @ AMSAT $ANS-063.01
ANS-063 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 063.01
  From AMSAT HQ KENSINGTON, MD.
DATE MARCH 4, 2018
To All RADIO AMATEURS
BID: $ANS-063.01

VP9, BERMUDA on Satellites

VP9, BERMUDA. Chris, KG6CIH, will be active as KG6CIH/VP9 from Bermuda (NA-005) between March 8-12th. Activity will be holiday style in addition to also checking out the island. He will be splitting radio time with a friend (David/WH6DSN was mentioned by another source). They will be focused on SSB operations on the main bands (80/40/20 meters, 15 meters if propagation is good, 160m if antenna works), and maybe some satellite contacts too. QSL will primarily be via LoTW, but if they get enough contacts, they will consider printing up special cards.

[ANS thanks Ohio/Penn DX Bulletin #1353 for the above information]

GOLF-TEE and GOLF-1 Selected for NASA’s CubeSat Launch Initiative

On March 2, 2018, NASA announced the ninth round of selections for the CubeSat Launch Initiative (CSLI). The first two AMSAT GOLF CubeSats, GOLF-TEE and GOLF-1, were among the 21 missions recommended for selection.

AMSAT must negotiate and execute a Cooperative Research and Development Agreement (CRADA) with NASA for each project to finalize selection. NASA anticipates a sufficient number of launch opportunities but does not guarantee that all recommended payloads will be launched.

GOLF-TEE (Technology Evaluation Environment) will serve as a rapidly deployable Low Earth Orbit (LEO) testbed for technologies necessary for a successful CubeSat mission to a wide variety of orbits.

AMSAT Vice-President Engineering Jerry Buxton, N0JY, said “The GOLF-TEE project tees off the next phase of our CubeSat program. GOLF-TEE provides AMSAT hardware and knowledge for Attitude Determination and Control (ADAC) capability and the opportunity to develop a 3U spaceframe with deployable solar panels that can be used in LEO or HEO missions, two of the major systems required in future GOLF and HEO missions.” Ragnarok Industries developed the attitude control system for the Lunar Heimdallr 6U CubeSat, a NASA Cube Quest Challenge finalist.

GOLF-TEE provides the opportunity for rapid deployment and on orbit testing of the AMSAT’s Advanced Satellite Communications and Exploration of New Technology (ASCENT) program’s technology, including radiation tolerant transponder and Integrated Housekeeping Unit (IHU) technologies that will lead the way for low cost commercial off-the-shelf (COTS) systems that can function in the MEO and HEO radiation environments. GOLF-TEE will also carry a Fox-1E design V/u linear transponder and RadFx (Radiation Effects) experiment for Vanderbilt University.

GOLF-TEE and the GOLF program will provide for the development of “Five and Dime” Field-Programmable Gate Array Software Defined Radio (FPGA SDR) transponders for use on a variety of missions and orbits.

The target date for launch of GOLF-TEE is 4Q 2019.

GOLF-1 will serve as a follow-on mission, also to LEO. Launch is targeted for 2020-2021.

GOLF-1 will require a de-orbiting plan that is in compliance with NASA's NPR 8715.6 NASA Procedural Requirements for Limiting Orbital Debris in order to be manifested on a launch, due to the high altitude AMSAT has requested.

Please consider a donation to the AMSAT GOLF program for development, construction, and testing of the GOLF-TEE and GOLF-1 CubeSats. Donate at https://goo.gl/GJ2Utb
Checks may be mailed to AMSAT, 10605 Concord St. #304, Kensington, MD 20895-2526.

[ANS thanks Paul, N8HM, for the above information]

Rare Grid Rover Activation Planned on Pacific Coast

Heads up AMSAT enthusiasts. Billy Blue, KM6NJL, plans to head to

Humboldt County, California March 16-19. Billy says, "Depending
on schedule and terrain and activities I'm going to try to work
from CM89, CN70, CN80, CN71 and CN81 or the borders of these
grids. Unfortunately I won't be heading further east."

[ANS thanks Billy Blue, KM6NJL, for the above information]

VUCC Awards-Endorsements for February 2018

Here are the endorsements and new VUCC Satellite
Awards issued by the ARRL for the period February 1, 2018
through February 28, 2018.
Congratulations to all those who made the list this month!

February: Short Month -- Fewer endorsements

CALL	1Feb18	1Mar18
WA4NVM	1450	1488
WC7V	1158	1159
AA5PK	996	1012
K4FEG	841	878
N4UFO	700	715
K6FW	661	703
K0FFY	173	260
VE6SWC	173	173
K5IX	100	125
G0ABI	115	116
AB1OC		115 (NEW VUCC)
PU8RFL		101 (NEW VUCC)

If you find errors or omissions. please contact me off-list
at <mycall>@<mycall>.com
and I'll revise the announcement.

This list was developed by comparing the ARRL .pdf
listings for February 1, 2018. and March 1, 2018. It's a visual
comparison so omissions are possible. Apologies if your
call was not mentioned. Thanks to all those who are
roving to grids that are rarely on the birds. They are
doing most of the work!

[ANS thanks Ron, W5RKN, for the above information]

Satellite 101 Wiki Released by IIT Bombay Student Satellite Project

Members of the Pratham satellite team, the first student satellite
of IIT Bombay Student Satellite Project (IITBSSP), have created the
Satellite 101 Wiki as a part of a social goal of spreading knowledge
and enthusiasm related to satellite and space technology among
various aspiring students and universities across the globe.

The Wiki discusses:

+ Starting a Student Satellite Project
   - Building the Team
   - Planning the mission and finalizing the Payload
   - Obtaining the required Infrastructure
+ Subsystems within a Satellite
   - Payload Subsystem
   - Communications Subsystem
   - Electrical Subsystem
   - Attitude Determination and Control Subsystem
   - Mechanical Subsystem

Access the Satellite 101 Wiki at:
http://www.aero.iitb.ac.in/satelliteWiki/index.php/Satellite_101

[ANS thanks the IIT Bombay Student Satellite Project for the above information]

Rules for AMSAT Awards updated

A few months ago we added Washington, DC counting the same as a state. Today, we continued to align our awards with the ARRL. Our rules stated contacts had to be made within 25 miles or 40 kilometers from your home location. We have now amended the rules to read within 50 miles or 80 kilometers. This should be more beneficial for those that have moved to a new QTH.

[ANS thanks Bruce, KK5DO, for the above information]

BIRDS-2 CubeSat Constellation Includes 145.825 MHz Digipeater

The BIRDS-2 CubeSat constellation developed at Japan's Kyushu Institute of Technology includes three 1U CubeSats:

+ BHUTAN-1
+ MAYA-1
+ UiTMSAT-1

All CubeSats in BIRDS-2 constellation have identical designs and utilize the same radio frequencies. They are planned for release from the ISS together in 2018.

The primary mission of BIRDS-2 CubeSat constellation is to provide digital message relay service to the amateur radio community by means of an APRS digipeater onboard. The APRS digipeater onboard BIRDS-2 CubeSats will use 145.825 MHz for both receive and transmit.

145.825MHz is a standard frequency used by other satellites such as ARISS and LAPAN-A2.

Another mission of the BIRDS-2 CubeSat constellation is to demonstrate a store-and-forward (S&F) system. In this mission, a goal is to investigate technical challenges through experiments on appropriate data format, multiple access scheme, file-handling protocol while complying with limited operational time and power constraints.

Another interesting application of BIRDS-2 CubeSat S&F system is
for the satellites to collect data from remote ground sensors,
store them onboard and download them to the different BIRDS-2
ground stations network.

Further, students of Kyushu Institute of Technology will use BIRDS-2
CubeSat constellation to enhance research and experiment in the
fields of single latch-up event detection, magnetic field measurements
using a COTS anisotropic magnetometer, and flight testing of a COTS GPS
chip which can be used for future CubeSat missions if proven effective.

Students will also explore a passive attitude stabilization mechanism
consisting of magnets and hysteresis dampers for proper orientation of
camera on a CubeSat. All measurements and image data will be shared
with the public on BIRDS-2 project website.

Moveover, BIRDS-2 CubeSat constellation will expand amateur radio
communication experiment on the operation of CubeSat constellation
via a network of UHF/VHF amateur radio ground stations (started in
BIRDS-1 CubeSat constellation project). All the above missions are
envisioned to promote awareness of amateur radio communication and
amateur satellites among the general public and students, especially
in the participating nations of BIRDS-2 Project: Bhutan, Malaysia,
Philippines, and Japan. Planning a deployment from the ISS in 2018.

The IARU has coordinated a downlink frequency of 437.375 MHz and
for APRS uplink/downlink 145.825 MHz. The IARU detailed pages are
as noted:

BHUTAN-1
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=562
MAYA-1
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=563
UiTMSAT-1
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=564

An article in the Bhutan press is posted at:
http://www.kuenselonline.com/bhutan-1-expected-to-be-in-space-by-may/

[ANS thanks AMSAT-UK, kuenselonline.com, and the IARU for the above
information]

Satellite Shorts From All Over

+ Congratulations on achieving a distance of 7649 km via AO-7
  QSO by F6HTJ (JN12) and K4FEG (EM55) near Memphis, Tennessee.
  The frequency was 145930.0. (Via F6HJT)

+ The Eureka Amateur Radio Club, VY0ERC, is located at 79 degrees 59 min
  North, 85 degrees 56 min West on Ellesmere Island (IOTA NA-008).
  M0NPT recorded a video of G0ABI and G7SVF working VY0ERC via AO-91:
  https://youtu.be/oOiV-iEZhX4 (AMSAT-UK on Twitter)

+ 2017 Space Symposium - Corey Shields KB9JHU - Intro to SATNOGS
  https://www.youtube.com/watch?v=FsKJX4WgCn0
  (via AMSAT Twitter)

+ Congratulations on achieving a distance of 5,479 km via AO-91
  QSO by Sam, N3ROY (FM29) and Jose, EB1AO (IN52) in Spain at
  1530 Z on March 1. (via N3ROY)

+ A group of Ham Radio operators from Southern Mexico will be
   operating the special event "Spring Equinox" with the call
   6E3MAYA from March 17th. to 21th. The activity will be 80 to
   6 meters in SSB, CW, Satellite and Digital Modes. QSL via
   XE3N. (Twitter via Daily DX and XE3N)

/EX

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Lee McLamb, KT4TZ
kt4tz at amsat dot org